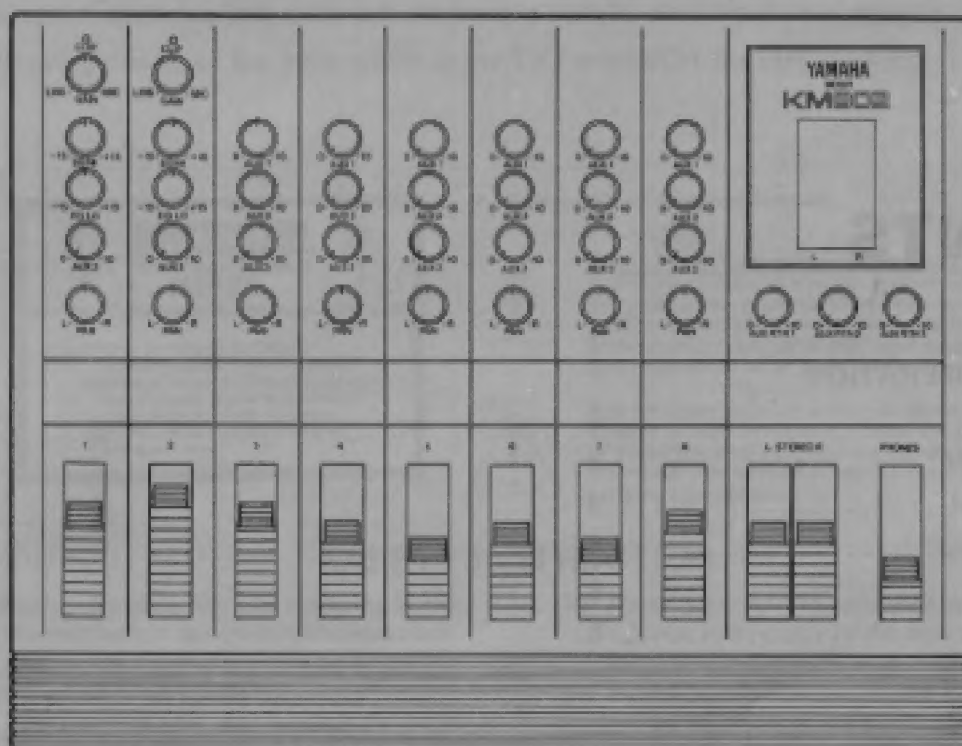


YAMAHA



KM802

MIXER

TABLE DE MIXAGE

MISCHPULT

OPERATING MANUAL

MANUEL D'UTILISATION

BEDIENUNGSANLEITUNG

Thank you for purchasing the Yamaha KM802 Household Mixer. The KM802 is a compact 8 in 2 out mixer especially designed with today's multi-effector setups in mind. It features three sends for channels 3-8, with stereo return for each. A unique space-saving design with a hand rest pad and highly visual faders make it a pleasure to use. In order to obtain the highest possible performance and make the most of the KM802's features, please read this owner's manual carefully.

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PRECAUTION

LOCATION

Avoid placing the KM802 in direct sunlight or close to a source of heat. Also, avoid locations in which the device is likely to be subjected to vibration, excessive dust, cold or moisture.

HANDLING

Avoid applying excessive force to the switches, dropping or rough handling. While the internal circuitry is of reliable, integrated circuit design, the KM802 should be treated with care.

POWER CORD

Always grip the plug directly when removing it from an AC receptacle. Removing the plug from the AC receptacle by pulling the cord can result in damage to the cord, and possible a short circuit. It is also a good idea to disconnect the KM802 from the AC receptacle if you don't plan to use the device for an extended period of time.

CONNECTIONS

Before plugging or unplugging inputs, turn the power off or the volume down.

DO NOT OPEN THE CASE

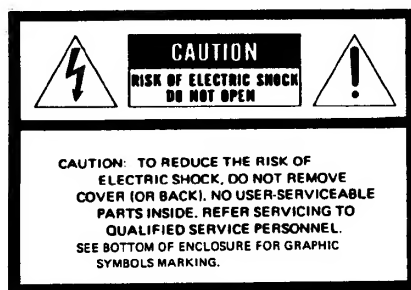
There are no user-serviceable parts inside.

CLEANING

Use only a mild detergent on a cloth, and dry with a soft cloth. Never use solvents (such as benzine or thinner) since they can melt or discolor the surface.

FEATURES

- Three post-fader sends on each channel (channels 3-8) respond to the trend toward multi-effector setups.
- Three stereo effect returns let you enjoy the full spacious sound of effect devices with stereo outputs.
- Highly visible fader position markers let you see volume settings even on dimly lighted stages.
- Stereo headphone monitoring jack with volume control independent from main output.
- Unique space-saving design, of the same width as the TX7 and QX21 for easy stacking.



• Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



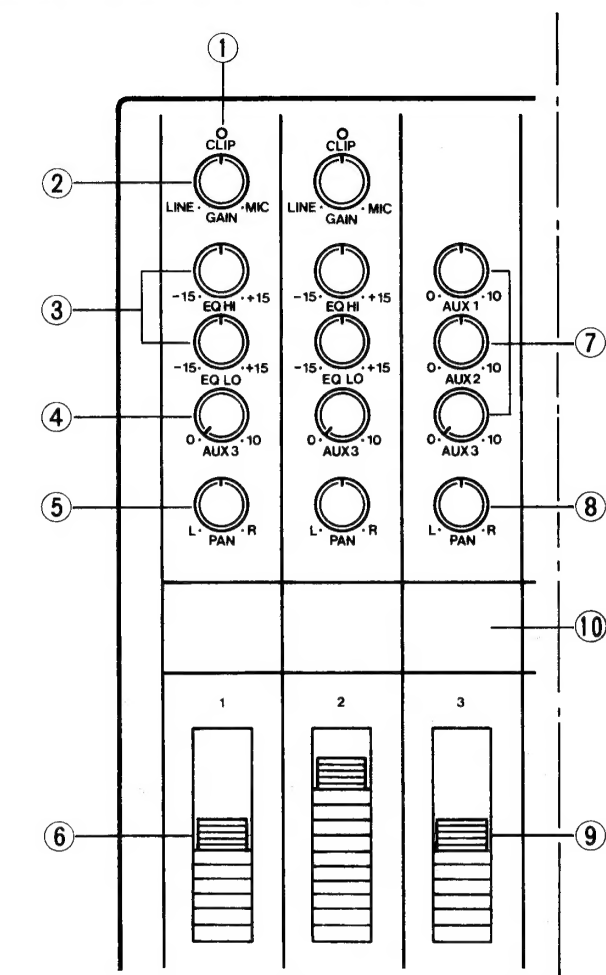
The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

SAFETY INSTRUCTION

1. Read Instructions—All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions—The safety and operating instructions should be retained for future reference.
3. Heed Warnings—All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions—All operating and use instructions should be followed.
5. Water and Moisture—The appliance should not be used near water—for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.
6. Carts and Stands—The appliance should be used only with a cart or stand that is recommended by the manufacturer.
7. Wall or Ceiling Mounting—The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation—The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat—The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources—The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Power-Cord Protection—Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
12. Cleaning—The appliance should be cleaned only as recommended by the manufacturer.
13. Nonuse Periods—The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Object and Liquid Entry—Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the appliance.
15. Damage Requiring Service—The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
16. Servicing—The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

CONTROL PANEL OPERATION

INPUT SECTION



Inputs 1, 2

Inputs 1 and 2 are ideal for use with microphones or other low level sources, since they have adjustable gain and a clip indicator.

① CLIP

These LEDs will light when the input signal reaches 3dB below clipping level.

② GAIN

This lets you adjust the input sensitivity to cover a wide range of sources. Gain is adjustable from -50 to +10dB. Microphones will require the most gain, so set this control to the right. Line-level instruments such as synthesizers already have a high output level, so set this control to the left. You can get the best signal-to-noise ratio for each source by adjusting gain so that the clip LED lights only occasionally.

③ HI and LO EQ

These alter the frequency response of the channel with up to ± 15 dB of shelving equalization at 10kHz (HI) and 100Hz (LO). (See the diagram.) Center position is normal (no effect).

④ AUX 3

This sends the post-fader signal to the aux 3 output.

⑤ PAN

This sets the stereo position of the post-fader signal.

⑥ CHANNEL FADER

This controls the output of the channel.

GENERAL SETTINGS OF INPUT LEVELS

POSITION OF GAIN CONTROL	INPUT SOURCE
	Low-level microphone (Dynamic type)
	High-level microphone (condenser type) Electrical, electronic musical instruments
	Low-level line (audio processing) Electrical, electronic musical instruments

Inputs 3-8

⑦ AUX 1, 2, 3

These send the post-fader signal to the aux outputs 1, 2 and 3.

⑧ PAN

This sets the stereo position of the post-fader signal.

⑨ CHANNEL FADER

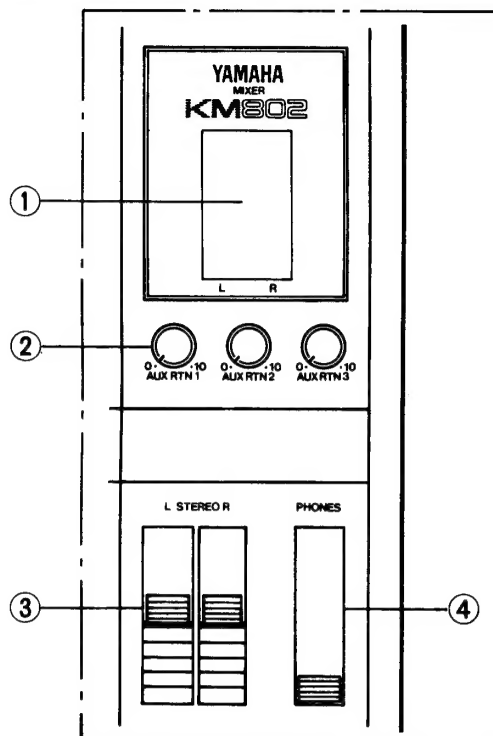
This controls the output of the channel.

⑩ MARKING SPACE

You can ID the channels by writing on masking tape.

CONTROL PANEL OPERATION/ BLOCK DIAGRAM

MASTER SECTION



① LED LEVEL METERS

These show the level of the stereo out. When the output level reaches 0db, the LEDs will indicate 0VU. Setting the stereo output faders so that the level meters usually read between -10 and 0VU will result in the best S/N ratio and the least distortion.

② AUX RETURN 1, 2, 3

These determine the level at which stereo signals received at aux return 1, 2 and 3 will be added to the stereo busses.

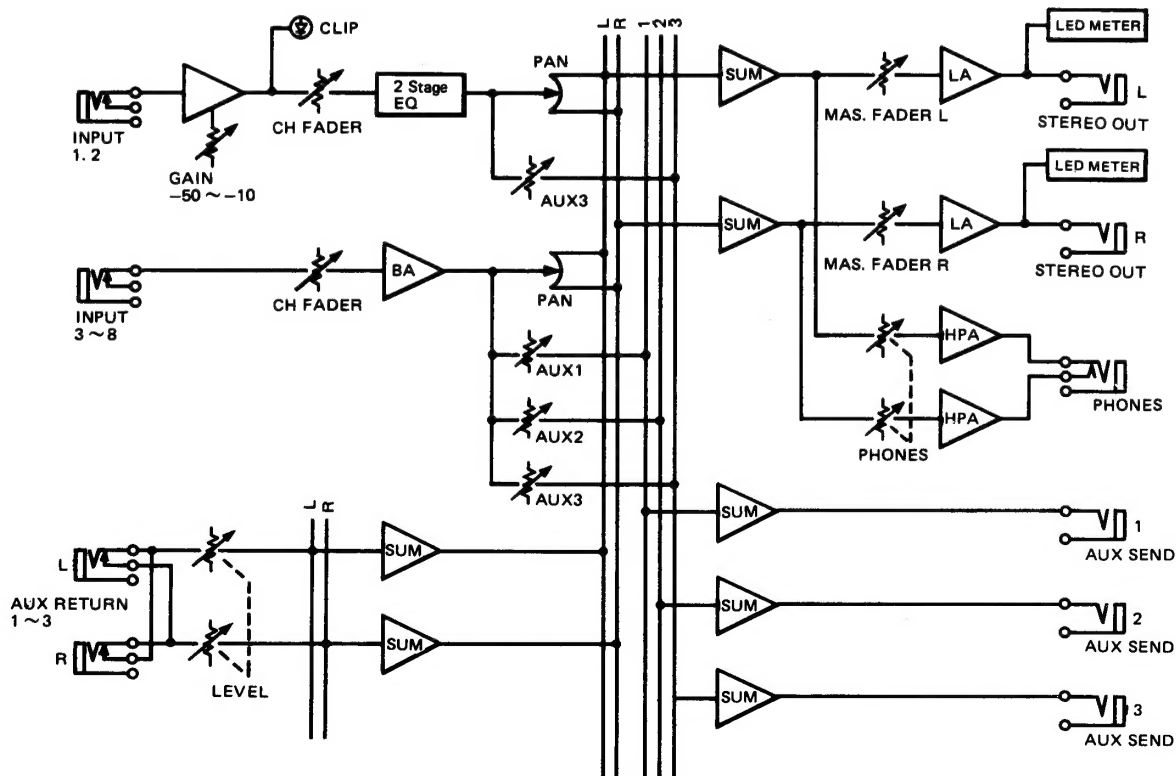
③ STEREO MASTER FADER L, R

These determine the final level of the stereo output.

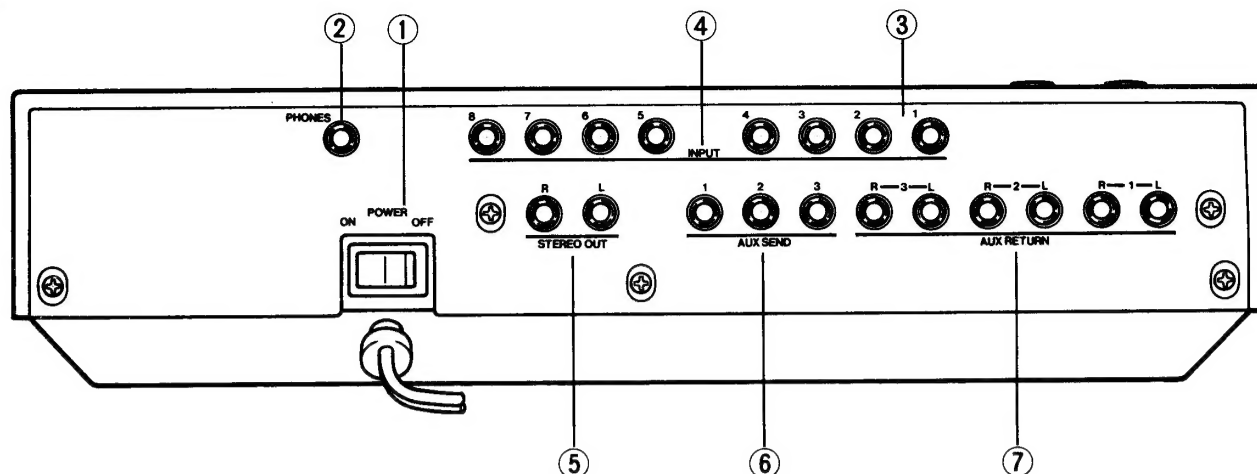
④ PHONES FADER

This determines the level of phones output. The phones output is independent of the stereo master.

BLOCK DIAGRAM



REAR PANEL



① POWER SWITCH

When the power is turned on, the first segment of the LED level meters will light.

② PHONES

This outputs the stereo signal from the phones fader. Any standard stereo headphones can be used.

③ INPUT 1, 2

Standard 1/4" phone plug for less than 10k-ohm line or 50-600 ohm microphone input.

④ INPUT 3-8

Standard 1/4" phone plug for less than 10k-ohm line input.

⑤ STEREO OUT L, R

This outputs the signal from the stereo master fader L and R.

⑥ AUX SEND 1, 2 (channels 3-8), 3 (channels 1-8)

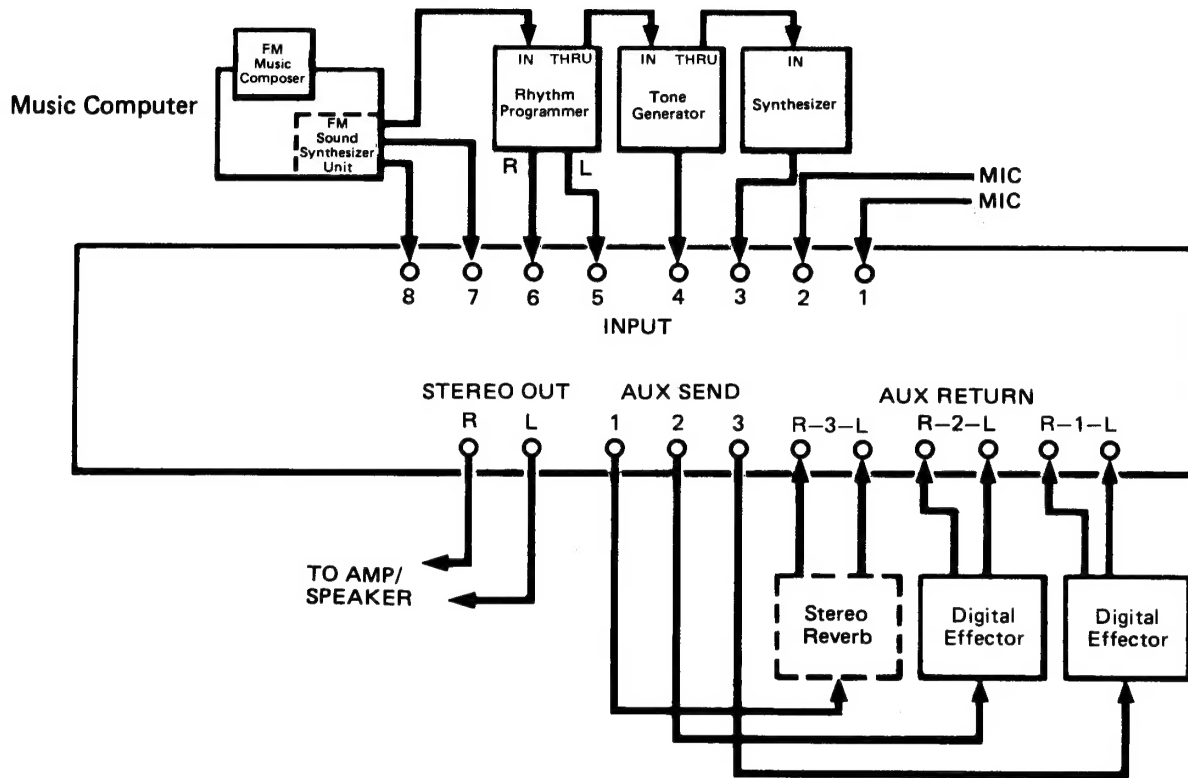
These output the combined signals of the channel aux send controls.

⑦ AUX RETURN 1, 2, 3 (L, R)

Signals input here are sent to the aux returns 1, 2, 3. If only one source is plugged in (L or R), it is treated as a mono source and sent to both L and R of the aux return.

EXAMPLE SETUP

Since the KM802 has stereo return for each aux send, it is especially useful with effects that have a stereo output. Here is an example using two stereo effectors and a reverb unit. You could set one effector to an echo effect and the other to a chorus effect. Adjusting the channel aux controls would determine the level of effect for that channel, and aux return 1, 2, 3 would determine the overall level of the effect.



This setup shows how you can use the KM802 to mixdown a multi-track sequence. Using FM Music Composer with the Music Computer (and FM Sound Synthesizer Unit), you can program a song with up to 8 parts. This can be synchronized with external MIDI instruments such as a Synthesizer, Rhythm Programmer and Tone Generator. For instance the Synthesizer might be set to play the melody and the Tone Generator a piano backing. The remaining parts could be played by the Music Computer's internal Tone Generator. The Rhythm Programmer would receive the MIDI synchronization signal from the Music Computer and keep perfect time with the song.

You can connect the KM802 L and R outputs to a tape deck and mix everything down to a 2-track master recording, while you and a friend sing along using the microphones.

SPECIFICATIONS

FREQUENCY RESPONSE

(10 k-ohms 0dB (STEREO OUT)
 -10dB (AUX SEND 1-3)

20Hz ~ 20kHz
(+1, -2dB)

TOTAL HARMONIC DISTORTION

(20Hz ~ 20kHz, 10 k-ohms, +10dB)

Less than 0.05%

HUM & NOISE (20Hz ~ 20kHz) Rs= 150 ohms, GAIN=MAX. (CH 1, 2)

Input Noise (CH 1, 2)	-122dB Equivalent
Residual Output Noise (STEREO OUT)	-90dB
STEREO OUT Master fader at nominal and all CH fader at minimum	-76dB
STEREO OUT Master fader and CH 1 or 2 fader at nominal level	-72dB
AUX SEND All CH AUX level controls at minimum level.	-88dB
AUX SEND CH 1 or 2 fader and AUX level control at nominal level	-82dB

CROSSTALK (1kHz)

Adjacent Input	-60dB
Input to Output	-60dB

MAXIMUM VOLTAGE GAIN

CH 1, 2 IN to STEREO OUT	62dB
CH 3-8 IN to STEREO OUT	22dB
AUX RETURN to STEREO OUT	32dB
CH 1, 2 IN to AUX SEND	52dB
CH 3-8 IN to AUX SEND	12dB

CH 1, 2 EQUALIZER

HI : 10kHz shelving	±15dB Maximum
LO : 100Hz shelving	

POWER REQUIREMENTS

(UL, U.S.A.)	AC120V, 60Hz
(General)	AC110, 120, 220, 240V, 50/60Hz

DIMENSIONS (W x H x D)

354 x 85 x 303 mm
(13-15/16" x 3-5/8" x 11-15/16")

WEIGHT

2.6 kg (5 lbs. 7 oz.)

* Hum & Noise are measured with 6dB/octave filter at 12.7kHz: equivalent to a 20kHz filter with infinite dB/octave attenuation.

** 0dB is referenced to 0.775V rms.

INPUT CHARACTERISTICS

Connection	Gain Trim	Actual Load Impedance	For Use With Nominal	Input Level			Connector In Mixer
				Sensitivity	Nominal	Max. before clip	
CH Input 1, 2 ch	-50	10k ohms	50-600 ohm Mics & 600 ohm Lines	-62dB (0.62mV)	-50dB (2.5mV)	-28dB (55mV)	Phone Jack
	-10			-22dB (62mV)	-10dB (245mV)	+12dB (3.1V)	
CH Input 3-8 ch		10k ohms	600 ohm Lines	-22dB (62mV)	-10dB (245mV)		Phone Jack
AUX RETURN 1-3 (L, R)		10k ohms	600 ohm Lines	-32dB (10mV)	-20dB (78mV)		Phone Jack

- (1) Sensitivity is the lowest level that will produce an output of 0dB (0.775V), or the nominal output level when the unit is set to maximum gain.

OUTPUT CHARACTERISTICS

Connection	Actual Source Impedance	For Use With Nominal	Output Level		Connector In Mixer
			Nominal	Max. before clip	
STEREO OUT (L, R)	600 ohms	10k ohm Lines	0dB (0.775V)	+17.5dB (5.8V)	Phone JACK
AUX SEND 1-3	600 ohms	10k ohm Lines	-10dB (245mV)	+17.5dB (5.8V)	Phone JACK
PHONES OUT	100 ohms	8-ohm phones	-22dB (61.6mV)	-4.5dB (462mV)	STEREO Phone Jack

- (2) 0dB is referenced to 0.775V.

SERVICE

The KM802 are supported by Yamaha's worldwide network of factory trained and qualified dealer service personnel. In the event of a problem, contact your nearest Yamaha dealer.

YAMAHA

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